STUDIES IN PRINCIPLES OF EDUCATION

CHARLES H. JUDD
The University of Chicago

VI. INITIATIVE OR THE DISCOVERY OF PROBLEMS

The principle of self-activity has been stated by a number of writers in such terms as the following: The pupil should be brought face to face with some problem which will challenge his maximum ability. This problem may arise out of his desire to construct something, or it may grow out of his desire to take part in some social activity. In either case he will come to realize the need of more training. He is then supposed to seek this training without any compulsion from others. If, for example, he wishes to make a flying machine, he will read about the construction of flying machines, and will give himself the necessary arithmetic to work out the dimensions which are described in the reading-matter that he takes in hand. The problem which is in his mind becomes thus an adequate motive for reading and for the study of arithmetic. Again, if a child wishes to take part in some game, he will submit to discomfort for the sake of the social enjoyment which he can derive from contact with his companions. The same kind of motives ought to be utilized in regular school work. Children should be confronted by problems in construction and by social opportunities. Reading should grow out of these adequate self-realized motives. Number-work should be mastered in the solution of real constructive designs. In all of these cases a realization of the problem is the important step in education. The educational process will, it is assumed, take care of itself through the student's self-activity, if only he can be brought to realize the desirability of the concentration which the teacher wishes him to exhibit.

One of the best sources for problems of this sort, it is said, is the manual-training workshop. All children have a natural desire to possess boats and cages and boxes, and if they are called upon to construct these things their studies can be made to grow out of

their natural desires. Again, attention is called to the fact that there are certain fundamental needs of life which may be utilized. Every child needs food, and a good deal of emphasis has been laid in recent educational discussions upon the desire for food as a natural problem which can be used in organizing school work. In like fashion it is urged that interest in clothing may be used as the basis of a course of study.

The first criticism which is to be made of many of these assertions rises from the fact that a child may have a need without in any wise realizing that need, or regarding it as a genuine motive for his own personal concentration of attention. Thus while it is true that a child has need of food, there is very seldom in civilized society any recognition of this need on the part of the child. For the most part the food products of the community are brought to the child through an elaborate social machinery which removes him far from the natural sources of the food supply. No demand has ever been made upon him personally and he has no realization of the labor which society expends in the collection and preparation of food. To realize that there is here a personal problem involves something more than the mere natural existence of a necessity. One must have enough experience to form some idea of his own relation to the rest of the world before he can understand his need. Not only so, but he must realize also the connection between any effort which he may be able to put forth and the satisfaction of this need. Thus, continuing the illustration of a moment ago, it is perfectly clear that a child may have a natural need for food, and may be brought to a realization of the fact that he needs this food, but he may have very great difficulty in recognizing the fact that the cultivation of the ability to write a letter is in any way connected with the satisfaction of his natural need. Between the letter and the satisfaction of his need must stand a realization of the fact that a letter is a means of communication and that some means of communication is necessary in order to bring him into that social contact with the people about him which will serve to supply his natural need.

We see from this illustration that the recognition of a problem is itself a step in education. One must have enough of a view of

the world to realize his relations to the world, and this he can attain only through some study of himself and the conditions which surround him.

A second criticism of the general position which holds that a child will exert himself if he can only realize that there is a problem before him, can be formulated in the statement that the motives for action do not arise from the mere affirmation of certain needs. Very frequently a person may give assent to his need in a certain direction, and yet not have the necessary energy to carry him through the activities which would satisfy this need. The motive for action must in some cases be made very strong. This very frequently means that there must be a realization of the evil consequences of a failure to meet the problem. For example, a child may be persuaded in a general way of the necessity of knowing something about numbers. He may even have clearly before him the advantages of being able to measure or otherwise deal with number problems. And yet this realization of the advantage may not be strong enough to lead him to exert himself. There is many an artisan and mechanic in the world who realizes in a general way the advantage of an advanced education. He is confronted every day with evidences that he could occupy a more comfortable position in the world if he would concentrate his mind upon certain information which is offered to him. The correspondence schools which have grown up in this country have very little difficulty in persuading men that it is desirable to begin home study. The very great majority of those who register in the courses offered by these schools do not have the enthusiasm which will carry them through the courses. They are intellectually persuaded at the beginning of their work that there is a problem to be solved, and that the way in which they should solve this problem is through the acquisition of more knowledge. But as soon as they begin the arduous task of pursuing the knowledge necessary to advancement they lose sight of the problem which they have once seen. Their motives are not strong enough to carry them forward and they stop the work. In the same way children in the elementary schools do not easily hold to lines of work which demand concentration over long periods of time. The fact is that enthusi-

asm and energy in such cases rest upon a broad training which prepares one to realize the fact that education has certain remote ends as well as immediate ends. Breadth of vision therefore is an important part of one's devotion to any task. This breadth of vision can be cultivated only by a kind of training which will give a view of remote consequences, and this view of remote consequences must in many cases be cultivated without depending upon any problem which can be presented at the moment. Furthermore, as indicated above, the view of the remoter consequences should include certain negative factors. The evil consequences of omission can be utilized as real and legitimate motives for present training. Thus Spencer calls attention to the important educational influence of starvation, both real and imagined. The savage who never looks into the future or stores food for future need suffers from time to time because of his lack of foresight. He ultimately comes to realize the importance of storing food, and cultivates foresight in order that he may avoid future suffering. His education in this case has grown out of the desire to avoid an unfavorable consequence. Once the race has mastered this lesson, children can be taught to store food without passing through the actual distress of starvation. What we do in anticipating direct needs we may do also in preparing for indirect activities. Thus we call the attention of a child in the school to the fact that he will not be able to take a high place in society if he does not learn to read. Consequently he begins to exert himself with a view to avoiding undesirable consequences which amount to a social punishment. Such negative considerations are often quite as educative and frequently more stimulating than any positive motives which can be presented.

If the foregoing discussion has served its purpose it has made it clear that the realization of problems is itself a matter of training. A child must learn how to see the problems of life. He must have some intellectual guidance in his discovery of the types of activity which it is necessary for him to take up. The business of the school therefore is not merely to help him solve those problems which he now realizes, but the still more important business of the school is to give him that mental training which will open up to him

problems that he could not have realized from his own limited experience. Furthermore, it is the business of the intelligent guide of the child's training to look far enough into the child's future to anticipate those problems which are going to arise in later years and to lay the foundation in the school work of the solutions which will be advantageous when, in the future, these problems actually appear. The conventional training given in the schools has been of this anticipatory type. Any example borrowed from the regular work of the ordinary school can accordingly be utilized to illustrate what is meant. Thus, the child does not recognize at all the advantages of a systematic statement of the principles of mechanics. He is interested at the beginning of life in the consideration of certain toys. Each of these toys involves a mechanical principle. After he has dealt with the simple mechanical principle in the form in which it appears in his handwork his attention should be drawn to the fact that there is in this situation not merely an opportunity to do something in a constructive way, but there is also an opportunity to understand the situation with which he has had to deal. He may not understand the importance of formulating what he has done in a general principle. He must be led to realize the importance of understanding what he has done. He will treat the principle at first as a mere accessory to his real constructive interest; but gradually, through the consideration of those principles which he learns in this formal way, he will come to realize that there are other similar principles which he does not know at the present time. The study of principles will thus open his mind to the importance of a general training in the principles of mechanics. If this cycle of training can be given in its entirety the child can be taught to use abstract principles. He will then be in possession of a new instrument of progress no less important than that which he gains by solving the constructive problems which he understands at the beginning of his study. The pupil has thus established a type of thought which will carry him beyond anything that he can discover through his relations to concrete objects alone. The school has opened up his mind to the recognition of an entirely new kind of problem.

Take another illustration, this time from community life. All communities have from the beginning been in need of some sort

of sanitary regulations. Primitive peoples met these demands in a very simple way, by leaving the sites which they had occupied for a time. In other words, instead of trying to devise sanitary principles of community organization, they evaded the problem. Most untrained people evade problems rather than develop through their contact with problems. Somewhat later the moving about of communities became more and more difficult, and evasion became increasingly difficult, and yet the problems of sanitation were not for a long time actually discovered and realized. Sooner or later some of the more intelligent members of the community saw that if a community was to live permanently on a single site steps must be taken to provide sanitary conditions. The educational struggle began at this point. Those members of the community who were sufficiently in advance of the others to realize the necessity of sanitation have had to exert themselves strenuously in order to persuade the other members of the community that there is such a problem as the sanitary problem. One cannot convince an ignorant man of the necessities of sanitation without taking steps to present to his mind in some vivid way needs which have existed all along but have never been comprehended. The vivid presentation includes training in the comprehension of facts which the untrained man has misinterpreted in his superstitions or overlooked altogether. The facts have indeed been before his eyes and are undoubtedly of great importance to him and to those with whom he is immediately connected. But he needed training in order to realize how these facts touched his conduct. We undertake exhibitions and we provide means of instruction for the community in order that the problem of sanitation may be recognized as a problem. The educational effort in such a case as this is directed, not toward the solution of a problem, but toward the cultivation of a realization of the problem.

Practically all of the systematic work of the sciences is of the type just described. Thus when we have put together that which is known in any field of science, we have at the same time stated certain requirements for the extension of knowledge which could not have been understood before. A science creates its problems. In the elementary school a study of plants, even though it be very elementary in character, may create a realization of the need of

further study of the conditions under which plants grow. The science creates its own new problems, and each step that is taken in intellectual development is a step in the realization of new demands for knowledge as well as a satisfaction of the demands which went before. In this sense all education is a succession of problems. Indeed, we may go a step farther in emphasizing the importance of pointing out problems. No one ever realized the problems of life in a large way who depended solely upon his own experience and his own consciousness. An educated individual should be keen enough in accepting the suggestions of those who are about him and of all the sciences which he studies to realize that civilization has developed a world of problems that never could occur to the untrained individual. The appreciation of literature and art, the intelligent study of economic needs, are all problems of the trained mind; they are not natural problems.

This view of education, that it consists in training the individual to see and realize problems, is in strict comformity with the psychological analysis of children's minds. The young child in the primary grades is willing to take his problems without any immediate reference to his own personal needs, if only someone will suggest problems. Thus if the teacher is interested in training the child in the first grade how to read, the child will regard that as a problem merely because it is of importance to the teacher. He does not assert his own personal needs. Indeed, he has no very marked personal needs. He is willing to receive society's general directions as they come from the teacher, and he is willing to try to satisfy the demands which society makes upon him. The one great source of his problems is social suggestion. During this period we ought to prepare the child with all of the instruments for the realization of new problems in his future experience. He ought, in other words, to learn the elements of reading and the elements of number-work.

In the intermediate grades there is a wholly different attitude. This is a period of discovery of one's own personality and one's own needs. At this stage the child must have problems which grow out of his own immediate interests. This is the period for constructive activities and the period for a statement of social

demands which surround the child in terms of the child's own contact with those demands. It is a mistake to believe that the problems in the intermediate grades are of the same type as the problems in the lower grades; or, to put the matter in the other form, it is a mistake to assume that children in the early years must have their problems formulated with as great deference to their individual needs as children in the intermediate grades. Finally, when we reach the upper grades of the elementary school, children ought to have been trained to look beyond their own personal needs. Children in the intermediate grades, while they are given problems in accordance with their needs, should come to realize that there are problems in society which do not relate to them personally. They should have their attention drawn to these problems constantly. Even though these problems are not pushed to a solution in the intermediate grades, there ought to be in the mind of the child who arrives in the seventh grade a great variety of problems which carry him toward the higher forms of knowledge. He will thus have gained new and productive interests which will carry him forward. Unless there is a new type of interest in the mind of the child at this stage of his training, a type of interest that is to be described as an insight into larger needs, elementary education is all that the child is likely to seek or be willing to take on. He is satisfied to enter one of the practical walks of life and to give up the effort at intellectual comprehension of his environment. On the other hand, if he has been led to take a broad interest in the problems which other people are taking up, this broader insight will be the beginning of a new and much more productive kind of educational endeavor.

Not merely the solution of problems suggested by one's own experiences, then, constitutes the end and aim of school training, but the discovery of new problems is an important part of education. Youth is a period of learning to see problems as well as a period of learning to solve problems. Indeed, the progressive phase of education is not found in skill, but rather in alertness to see new opportunities. Education, if it is to carry the student forward, must open up many new problems, thus substituting a scientific view of the world for the view suggested by the consideration of personal needs.